

**What is Claimed is:**

- Sub.B1*
1. A method for transporting a signal over a power line having a center conductor, wherein the method comprises:
- produce*  
inducing an alternating current (AC) voltage from the power line;
  - powering a transceiver device with the induced AC voltage; and
  - communicating the signal with the transceiver device via the power line;
2. The method of claim 1, further comprising transmitting the signal to an end user via the transceiver device.
3. The method of claim 2, wherein the signal is transmitted over non-metallic fiber optic links.
4. The method of claim 1, further comprising receiving the signal from an end user via the transceiver device.
5. The method of claim 2, wherein the signal is received over fiber optic links.
- Sub.C1*
6. The method of claim 1, further comprising filtering the induced AC voltage.

Sub. B2  
7. The method of claim 1, further comprising filtering the signal.

8. A device for transporting a signal over a power line having a center conductor, wherein the device comprises:

at least one ferrite core located on an outer insulator of the power line for increasing an inductance of the power line;

a transformer device located on an outer insulator of the power line for inducing an AC voltage from the power line; and

a transceiver that receives power from the transformer device, and receives the signal from a conductor external to the center conductor.

9. The device of claim 8, further comprising an enclosure for housing the ferrite core, the transformer device, and the transceiver device.

10. The device of claim 9, wherein the enclosure attaches to the power line at a predetermined distance from a gap in the outer insulator of the power line.

Sub. C1  
11. The device of claim 9, wherein the enclosure provides a ground potential.

12. The device of claim 8, wherein the transformer device is a current transformer.

13. The device of claim 8, wherein the transceiver is a fiber optic transceiver.

sub.B3 14. The device of claim 8, wherein the transceiver is coupled to the external conductor via a gap in the outer insulator of the power line.

15. The device of claim 8, wherein the transceiver converts the AC power to a direct current (DC) power.

16. The device of claim 8, further comprising a low-pass filter for filtering the AC power provided by the transformer device.

17. The device of claim 8, further comprising a high-pass filter for filtering the signal provided via the external conductor.

18. A method for providing transport of a signal over a high-voltage coaxial cable, comprising:

removing a portion of an outer insulator of the high-voltage coaxial cable;

coupling a communication device to the removed portion of the high-voltage coaxial cable;

inducing a voltage from a center conductor of the high-voltage coaxial cable; and

providing the induced voltage to power the communication device.

19. The method of claim 18, further comprising grounding the outer insulator at a predetermined length from the communication device.
20. The method of claim 18, further comprising adjusting the predetermined length to modify the inductance value.
21. The method of claim 18, further comprising placing at least one ferrite core on the outer insulator to adjust an inductance.
22. The method of claim 18, further comprising adjusting a characteristic of the signal provided by the communication device.
23. The method of claim 22, wherein the signal characteristic is a voltage amplitude.
24. A method for providing transport of signals over power lines comprising:  
removing a complete circumferential strip from a shield layer of a high voltage coaxial cable power line thus creating a gap and discontinuity in the shield layer;  
coupling an RF source to the shield layer proximate to and on one side of the gap with a first lead;

coupling the RF source to the shield layer proximate to the gap and on the side of the gap opposite the first lead;

shunting the shield layer across the gap with an enclosure, said enclosure comprises an electrically conductive material thus creating an outer shield layer shunt wherein the outer shield layer shunt encloses the first lead and the second lead thus creating an inductance and a ground; and

inducing the signals from the RF source over the high voltage coaxial cable.

add  
AI

2025-07-24-09:00